

Undrained Bearing Capacity of Circular Foundations on two Layered Clays

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Abstract : Natural soils are often deposited in layers. The estimation of the bearing capacity of the soil using conventional bearing capacity theory based on the properties of the upper layer introduces significant inaccuracies if the thickness of the top layer is comparable to the width of the foundation placed on the soil surface. In this paper, numerical computations using the FLAC code are reported to evaluate the two clay layers effect on the bearing capacity beneath rigid circular rough footing subject to axial static load. The computation results of the parametric study are used to illustrate the sensibility of the bearing capacity, the shape factor and the failure mechanisms to the layered strength and layered thickness.

Keywords : numerical modeling, circular footings, layered clays, bearing capacity, failure

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